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Mineral Industry Surveys

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FLUORSPAR IN THE FIRST QUARTER 2006

Reported fluorspar consumption in the first quarter was 143,000 metric tons (t), an increase of 20% compared with the previous quarter but a 10% decrease compared with the figure for the first quarter of 2005. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride was 123,000 t, nearly a 16% increase compared with the previous quarter but about 12% lower than in the first quarter of 2005. Imports of fluorspar were 181,000 t, an increase of 51% compared with the previous quarter, but 20% less than in the first quarter of 2005.

Some of the values (that should have included cost, insurance, and freight) reported by the U.S. Census Bureau for acid-grade fluorspar imports in the first quarter were missing freight costs. For the specific shipments that were missing freight costs, adjustments were made by incorporating estimated freight costs derived from industry sources and published prices in trade journals. These adjustments resulted in a significant increase in the average value per ton of acid-grade imported in the first quarter (tables 1 and 3) as compared with those calculated from the official Census Bureau statistics.

Defense Stockpile

At the end of the first quarter 2006, the Defense National Stockpile Center (DNSC) reported that unsold stockpile material consisted of about 24,900 short dry tons (SDT) (about 22,600 t) of metallurgical-grade fluorspar and about 2,160 SDT (about 1,960 t) of acid-grade fluorspar. Material committed for sale pending shipment totaled about 28,900 SDT (about 26,200 t) of metallurgical grade and 2,800 SDT (2,540 t) of acid grade.

In recent sales held in March, April, and May, the DNSC announced the award of 441 SDT of acid grade to Hastie Mining and Trucking Co. for $136 per short dry ton, 5,000 SDT of metallurgical grade to Oxbow Carbon & Minerals LLC for $65 per short dry ton, 1,590 SDT of acid grade to Seaforth Mineral & Ore Co. for $146 per short dry ton, 5,000 SDT of metallurgical grade to Hastie Mining for $68 per short dry ton, and 200 SDT of acid grade to Seaforth for $148 per short dry ton (Ringquist, 2006a, b, c).

Industry News

Tiberon Minerals Ltd., on behalf of the Nui Phao Mining Joint Venture Co. Ltd. (Nuiphaovica), announced that it had signed an offtake agreement for fluorspar with CMC Cometals (a division of Commercial Metals Co.). Cometals agreed to purchase 100% of Nuiphaovica's projected acid-grade fluorspar output from the Nui Phao deposit in Vietnam for the first 3 years of production, followed by a 3-year renewal at Cometals' option and successive 1-year mutual extension options thereafter. Cometals has been a major force in the worldwide marketing of Chinese fluorspar and is very well known in the fluorspar business. Based on the final feasibility study released in July 2005, the project is expected to produce an average of 214,000 metric tons per year of acid-grade fluorspar, with production beginning in 2008 (Tiberon Minerals Ltd., 2006§[1]).

Central African Mining & Exploration Co. Plc (CAMEC) announced that it had conditionally agreed to purchase a 51% stake in South African company Nelesco 346 (Pty) Ltd. Nelesco controls a large undeveloped fluorspar deposit in North West Province about 10 kilometers from the Witkop Fluorspar Mine of Sallies Ltd. Under the terms of the agreement, CAMEC will pay one-half upon completion of the deal and one-half at bankable feasibility or upon Nelesco being granted full mining rights. Exploration drilling on the orebody was done between 1978 and 1982, the results of which were acquired by Nelesco. Three ore zones of algal dolomites (characteristic of the district) have been identified at depths of around 40 meters (m), 50 m, and 90 m. About 30 to 50 holes will be drilled to provide additional data to quantify indicated and measured reserves. Acquisition of the fluorspar rights was made possible by an amendment to the minerals and mining legislation of South Africa, which resulted in the abolishment of a complex mineral rights holding in the area (Central African Mining & Exploration Co. Plc, 2006§).

The deposit appears to be one formerly explored by Transvaal Fluorspar (Pty) Ltd. (a subsidiary of then U.S. steel company Armco). Reserve figures released by Armco reported proven reserves of 22 million metric tons (Mt) at 18% to 34% CaF_2 and inferred reserves of 33 Mt at 20% CaF_2 (Ryan, 1982). Plans

[1]References that include a section mark (§) are found in the Internet References Cited section.

then and now call for underground room and pillar mining, and even with current fluorspar prices, the economics may make the project problematic.

South African fluorspar producer Sallies announced that it was proceeding with the due-diligence process and negotiations to purchase Buffalo Fluorspar. The underlying assets of Buffalo Fluorspar essentially comprise mineral rights and a dormant fluorspar extraction plant. The slimes dams have been drilled for analysis to confirm in-situ grade, and the plant has been recommissioned and is processing batches of material to ascertain expected recoveries (Mining Weekly, 2006§).

Sallies announced production fell in the second half of 2005 because of breakdowns at its crusher plant and late rains. The company also was waiting a decision from the water affairs and forestry department on an application for an integrated water usage license and to build a new tailings dam at the Witkop mine. Since concluding a deal with African Renaissance Investments (Pty) Ltd., it had been granted mining rights over the Buffelshoek property north of its Witkop operation (Business Day, 2006§).

Honeywell International Inc. has appealed the decision of Sallies to cancel its supply contract with Honeywell to the International Chamber of Commerce in Switzerland. The arbitrators had 6 months from February to make a ruling (Business Day, 2006§).

Fluorochemical News

In late March, Mexican hydrofluoric acid producer Química Flúor SA de CV changed its name to Mexichem Flúor SA de CV. Subsequently, Mexichem Flúor merged with fluorspar mining company Cia. Minera Las Cuevas SA de CV to form the fluorine arm of its parent company the Mexichem Group. The Mexichem Group was formed in 2005 when its predecessor, Camesa Group, sold its steel division to focus on its chemicals businesses and changed its name to Mexichem to give it a clearer identification with the new focus (Industrial Minerals, 2006).

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Central African Mining & Exploration Co. Plc, 2006 (April 18), CAMEC acquires interest in South African fluorspar deposit, accessed May 10, 2006, at URL http://www.camec-plc/Investors_Media/RNS/2006/rns_047.php.

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Tiberon Minerals Ltd., 2006 (March 13), Tiberon secures offtake agreement with CMC Cometals for 100% of Nui Phao fluorspar production, accessed March 14, 2006, at URL http://www.tiberon.com/press/2006/06-05.pdf.

TABLE 1
SALIENT FLUORSPAR STATISTICS[1]

(Metric tons, unless otherwise specified)

	2005				2006
	First quarter	Second quarter	Third quarter	Fourth quarter	First quarter
Imports for consumption:	227,000	129,000	153,000	120,000	181,000
Average value per ton, c.i.f U.S. port, acid grade[2]	$195	$201	$208	$210	$221
Average value per ton, c.i.f. U.S. port, metallurgical	$91	$95	$92	$94	$104
Exports	5,480	6,060	20,100	4,430	3,850
End of quarter stocks, consumer	130,000	95,300	109,000	80,800	109,000
Fluorspar equivalent of imported hydrofluoric acid	53,600	50,700	48,400	53,100	60,900
Fluorspar equivalent of imported cryolite	1,100	1,110	809	707	1,640
Quarterly reported fluorspar consumption	160,000	157,000	145,000	119,000	143,000

[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Average values per ton have been adjusted by the USGS using published prices and data from industry sources and may not agree with values calculated strictly from U.S. Census Bureau data.

TABLE 2

CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE[1]

(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

End use or product	First quarter 2005			Second quarter 2005		
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total
Hydrofluoric acid and aluminum fluoride	139,000	--	139,000	136,000	--	136,000
Metallurgical	6,710	8,700	15,400	4,240	10,100	14,300
Other uses or products[2]	5,140	--	5,140	7,250	--	7,250
Total	151,000	8,700	160,000	147,000	10,100	157,000
Stocks, end of quarter[3]	116,000	13,700	130,000	87,300	8,010	95,300

End use or product	Third quarter 2005			Fourth quarter 2005			
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total	2005
Hydrofluoric acid and aluminum fluoride	127,000	--	127,000	106,000	--	106,000	508,000
Metallurgical	4,290	6,940	11,200	4,350	3,310	7,660	48,600
Other uses or products[2]	7,200	--	7,200	5,310	--	5,310	24,900
Total	138,000	6,940	145,000	116,000	3,310	119,000	582,000
Stocks, end of quarter[3]	98,000	10,800	109,000	69,600	11,200	80,800	80,800

End use or product	First quarter 2006[p]		
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total
Hydrofluoric acid and aluminum fluoride	123,000	--	123,000
Metallurgical	4,160	8,160	12,300
Other uses or products[2]	8,080	--	8,080
Total	135,000	8,160	143,000
Stocks, end of quarter[3]	93,700	15,600	109,000

[p]Preliminary. -- Zero.

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Includes acid grade used in enamel, glass and fiberglass, steel castings, and welding rod coatings.

[3]Stocks include distributor stocks (excluding National Defense Stockpile holdings) and consumer stocks for hydrofluoric acid and aluminum fluoride.

TABLE 3

U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE[1,2]

	2005								2006	
	First quarter		Second quarter		Third quarter		Fourth quarter		First quarter	
	Quantity (metric tons)	Value[3] (thousands)	Quantity First quarter	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)
Containing more than 97% calcium fluoride:										
China	168,000	$34,300	89,700	$18,700	97,400	$21,800	64,800	$14,300	132,000	$29,900
France	39	21	--	--	--	--	--	--	--	--
Germany	19	9	--	--	--	--	--	--	--	--
Mexico	12,200	1,790	10,400	1,780	13,700	2,420	10,200	1,800	11,300	2,140
Mongolia	10,100	1,650	8,860	1,490	10,100	1,550	13,500	2,560 [r]	4,940	988
South Africa	24,600	3,980	9,870	1,860	22,400	4,050	20,200	4,200	17,100	3,320
United Kingdom	--	--	--	--	1	3	148	23	2	16
Total	215,000	41,800	119,000	23,900	144,000	29,800	109,000	22,900	165,000	36,400
Containing not more than 97% calcium fluoride:										
Canada	34	12	41	17	--	--	--	--	--	--
Mexico	12,400	1,110	10,600	1,000	9,020	828	11,400	1,070	16,200	1,680
Other	--	--	--	--	--	--	--	--	--	--
Total	12,400	1,130	10,700	1,020	9,020	828	11,400	1,070	16,200	1,680
Grand total	227,000	42,900	129,000	24,900	153,000	30,700	120,000	24,000	181,000	38,100

[r]Revised. -- Zero.

[1]Imports for consumption include imports of immediate entry, and warehouse withdrawals.

[2]Data are rounded to no more than three significant digits; may not add to totals shown.

[3]Cost, insurance, and freight at U.S. ports. Values for some countries have been adjusted by the USGS using published prices and data from industry sources.

Source: U.S. Census Bureau.

TABLE 4

IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID[1]

	2005								2006	
	First quarter		Second quarter		Third quarter		Fourth quarter		First quarter	
	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)
Canada	11,100	$11,900	9,750	$10,500	12,100	$12,600	11,200	$11,100	12,000	$12,800
China	234	169	270	177	257	161	134	92	250	215
Germany	61	168	77	165	105	223	112	149	82	163
Japan	333	822	293	720	227	543	442	1,010	305	686
Mexico	23,700	22,600	23,300	22,300	19,500	18,500	23,300	23,300	27,700	27,300
Other[3]	287	298	122	283	80	246	151	355	150	384
Total	35,700	36,000	33,800	34,200	32,300	32,300	35,400	36,000	40,600	41,600

[1]Data are rounded to no more than three significant digits; may not add to totals shown.

[2]Cost, insurance, and freight at U.S. ports.

[3]Includes India, Italy, the Republic of Korea, the Netherlands, Singapore, Switzerland, and Taiwan.

Source: U.S. Census Bureau.